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Department of Water Resources
Division of Planning and Local Assistance
Bulletin 160
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Subject: Retrofitting Dams to Increase Storage

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Gentlemen and Ladies:

There are two main negative impacts to storage capacity, upper watershed management focus and dam design, which can be mitigated.

Watersheds have often been managed for resource production, There is now a focus on the watersheds as parks. This swing by the managing Federal agencies from one extreme focus to the other, omits the utilization of the lands for water. Siltation is bound to occur from these practices as will the lessening of carryover capacity.

- Unwise road retirement eliminates a management tool
- Blowouts and sheet runoff will impact the sedimentation of streams and reservoirs
- With increased winter floods possibilities, carryover capacity must be decreased

The Federal Agencies agree at the technocratic level that this will occur. At the policy level these results are either denied or blamed on a lack of funding. Obviously, at this management//policy level, funding requests for watershed management is poorly stressed. With the current events that show the results quasireligious influences have on watershed health, now may be the time for the State to request the Federal government to stress managing its lands for water.

Dam design is often deficient for future scenarios.

- The dams were designed with gloryholes that are undersized. This may often be due to upper watershed changes.
- Many of the dams, some Federal, some State and some of individual irrigation districts are of uncored earth construction.
- These dams often draw water from the bottom and have no oxygenation systems.

It takes a great deal of time and resources to construct a new dam. There is also religious opposition to new dams. Note the demand to remove current dams regardless of the chemical and mechanical environmental results. If spillways were examined for retrofitting, it may be environmentally and financially worthwhile in several cases.

- Debris dams may not be nesessatated.
- Oxygen levels can be raised on oxygen poor riverine systems.
- Flushing flows can be increased to restore salmonid habitat.
- Increased storage capacity can be used to facilitate anadromous runs

Sincerely,

Dennis Fox